

## **REMARKS**

### **I. Status of the claims**

Claims 1 and 4-14 are pending. Claims 2 and 3 remain canceled. Claims 1, 5 and 10 have been amended to clarify that at least one of the glass transition temperatures of the styrene/(poly)olefin block copolymer is within the claimed range. Support for these amendments may be found, for example, on page 8, line 14 to page 9, line 3; page 13, lines 16-25; and page 22, lines 17-25 of the specification.

No new matter has been added through these amendments. Because the amendments are being made solely to clarify the claimed invention, entry of the amendments should not necessitate a new search by the examiner. Accordingly, Applicant respectfully requests that the amendments be entered.

### **II. Rejection under 35 U.S.C. § 112, second paragraph**

The examiner has rejected claims 1 and 4-14 as being indefinite for failing to particular point out and distinctly claim the subject matter which applicant regards as the invention. The examiner states that in claims 1, 5 and 10, the phrase “the/a styrene/(poly)olefin block copolymer has a glass transition temperature of...” renders the claims indefinite because the styrene/(poly)olefin block copolymer generally has two different glass transition temperatures. According to the examiner, the claimed language is not clear in terms of which glass transition temperature of which block of the styrene/(poly)olefin block copolymer is referred to. Applicant respectfully traverses this rejection.

From the outset, the examiner’s argument that styrene/(poly)olefin block copolymer has two different glass transition temperatures is irrelevant to the definiteness issue of the claim language. As already discussed substantively in Applicant’s Response of January 15, 2009, the claimed “glass transition temperature” should not be interpreted as being limited to either the glass transition temperature due to the styrene portion or the glass transition temperature due to the olefin portion. Claims 1, 5 and 10 recite the term “a glass transition temperature” to indicate that at least one of the glass transition temperatures of the styrene/(poly)olefin block copolymer is within the claimed range, regardless which block of the styrene/(poly)olefin block copolymer is referred to. See Applicant’s Response filed on January 15, 2009 pages 5-6.

Nevertheless, to expedite prosecution and avoid any ambiguity relating to this term, Applicant has amended claims 1, 5 and 10 to clarify that at least one of the glass transition temperatures of the styrene/(poly)olefin block copolymer is within the claimed range. Hence, the language of amended claims 1, 5, and 10 is not indefinite. One of ordinary skill would understand the metes and bounds of Applicant's invention from the current claim language. Accordingly, Applicant respectfully requests that the examiner withdraw this rejection under 35 U.S.C. § 112, second paragraph.

III. Rejection under 35 U.S.C. § 103(a) over Inada in view of Vosters

The examiner has rejected claims 1 and 4-14 as being unpatentable over U.S. Patent No. 6,380,296 B1 to Inada ("Inada") in view of U.S. Patent No. 5,863,978 to Vosters ("Vosters"). According to the examiner, Inada discloses a resinous interior material, flooring material and skirting material comprising all recited components except a styrene/(poly)olefin block copolymer. The examiner tries to cure Inada's deficiency by combining Inada with Vosters, which allegedly teaches adding the styrene/(poly)olefin block copolymer to the wall and floor covering compositions to achieve good processability, relatively low density, good surface appearance and good scratch resistance. The examiner concludes that it would have been obvious to add the styrene/(poly)olefin block copolymer of Vosters in the compositions of Inada to lower density. Applicant respectfully traverses this rejection.

While Inada discloses resin type interior material comprising ethylene vinyl acetate copolymer and inorganic filler, Inada is completely silent relating to the use of a styrene/(poly)olefin block copolymer. Vosters discloses a composition useful in wall and floor covering comprising a styrene/(poly)olefin block copolymer. However, Vosters does not teach or suggest anything relating to the glass transition temperature range of the styrene/(poly)olefin block copolymer. Nor could Vosters possibly teach or suggest any benefit conferred by such claimed glass transition temperature range of the styrene/(poly)olefin block copolymer.

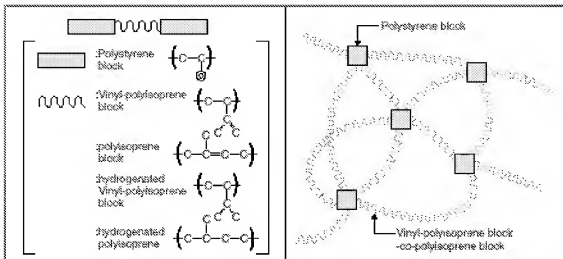
The examiner states that Vosters discloses styrene/(poly)olefin copolymer such as SBS, SIS, BSB, (SB)<sub>n</sub>, (SI)<sub>n</sub> etc., wherein S represents polystyrene block and I represents polyisoprene block. According to the examiner, because Voster's polystyrene/polyisoprene block is similar to

the claimed polystyrene/polyisoprene block polymer in Example 1, Vosters' copolymer inherently has a glass transition temperature within the claimed range.

Applicant respectfully submits the examiner's assertion that the claimed glass transition temperature range is inherent to Voster's polystyrene/polyisoprene block copolymer has not met the threshold necessary to show inherency. MPEP § 2112 requires that the examiner must provide rationale or evidence tending to show inherency. See *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) ("In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art."). See also *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) ("The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic.").

In this case, the examiner has not met the burden of providing a technical reasoning to support the determination that the few polystyrene/(poly)olefin copolymer of Voster would have a glass transition temperature that is necessarily within the claimed range. The mere assertion that Voster disclosing *similar* polymer composition as the claimed polymer composition does not necessarily lead to the conclusion that Vosters' polymer composition possess the same glass transition temperature range as Applicant's claimed styrene/(poly)olefin block copolymer.

The glass transition temperature, a temperature at which a polymer becomes soft and flexible, depends not only on the molecular weight of the polymer, but also on many other factors, such as the structure of the polymer. For instance, Hybrar™ 5127, manufactured by Kuraray Co. is an example of a styrene/(poly)olefin block copolymer having at least one glass transition temperature within the range of -20°C to +50°C. See the specification, page 8, lines 10-12, page 28, lines 8-10, and Example 1. The Hybrar™ 5127 has a reticular (netlike) structure, as shown below in the figures cited from the online catalog of Hybrar™.



In contrast, the structure of Vosters polystyrene/(poly)olefin block copolymer is exclusively linear or star shape. The styrene/(poly)olefin copolymer cited by the examiner such as SBS, SIS, BSB are linear-shape polymers; and (SB)<sub>n</sub>, (SI)<sub>n</sub> are star-shape polymers. See Vosters, col. 1, lines 61-64; col. 3, lines 23-29; and col. 3, lines 30-34. Because the structure of the styrene/(poly)olefin copolymer of the claimed invention is distinctively different from those disclosed in Vosters, and because the glass transition temperature of a polymer depends at least partially on the structure of the polymer, Vosters' polystyrene/polyisoprene block copolymer would not necessarily have the same glass transition temperature range as Applicant's claimed styrene/(poly)olefin block copolymer. Hence, the examiner's conclusion that Vosters' copolymer would inherently have a glass transition temperature within the claimed range is not supported by a technical reasoning of the properties associated with the polymers.

In addition, the claimed styrene/(poly)olefin copolymer having a glass transition temperature within the claimed range provides improved properties to the interior material. These improved properties are unexpected view of the prior art references. For example, when the copolymer has a glass transition temperature *higher* than the claimed lower threshold, the interior material obtains improved stress-relaxing properties and durability and, in particular, satisfactory conformability in application resulting excellent marring resistance and abrasion resistance; when the copolymer has a glass transition temperature *lower* than the claimed higher threshold, the interior material does not become vitreous and hard or brittle at the actual use temperature for the interior material. Only when the claimed styrene/(poly)olefin block copolymer has a glass transition temperature within the claimed range can it regulate the

hardness or other properties of the interior material. See the specification, on page 8, line 18 to page 9, line 12; and page 5, line 24 to page 6, line 11. Such improved properties are not taught or suggested in either Inada or Vosters.

Accordingly, Inada and Vosters, either alone or in combination, fail to teach or suggest a styrene/(poly)olefin block copolymer having at least one glass transition temperature within claimed invention. Applicant therefore respectfully requests the rejection of claims 1, and 4-14 under 35 U.S.C. § 103(a) be withdrawn.

IV. Conclusion

Applicants respectfully request reconsideration of this application in view of the above amendments and remarks.

Except for issue fees payable under 37 C.F.R §1.18, the Commissioner is hereby authorized to charge any payment deficiency to Deposit Account No. 19-2380. Should the examiner have any questions that would facilitate further prosecution or allowance of this application, the examiner is invited to contact the Applicants' representative designated below.

Respectfully submitted,

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